(b) Fiberboard. Fiberboard used in the construction of interior (unit and intermediate) and exterior fiberboard boxes, including packaging forms, shall conform class - domestic/fire-retardant or class - weather resistant/fire-retardant materials requirements of PPP-F-320 as specified (see 6.2).

5.2 Preservation. Preservation shall be level A, C or Commercial as specified (see 6.2).

5.2.1 Unit packs. The coatings shall be furnished in 1, 4 or 19 L (1 quart [qt], 1 or 5 gal) cans or pails as specified (see 6.2). When the coating is composed of two components, it shall be supplied as a kit consisting of base material marked component A and curing agent marked component B. When component A is mixed with component B, the amount of material produced shall equal the size of the kit. Component A shall be furnished in 1 or 4 L (1 qt or 1 gal) cans or pails or in 19 L (5 gal) pails as specified (see 6.2). Component B shall be furnished in cans or pails of the appropriate size, and shall be fastened to the container of container A. Alternatively, components A and B shall be unit packed as a kit in a double-compartmented 23 or 24.5 L (6 or 6-1/2 gal) pails (see 5.2.2.3).

5.2.2 Level A.

5.2.2.1 Cans. Cans shall be in accordance with type V, class 2, of PPP-C-96. An interior coating is required for cans containing water-based coatings. Plan B coating and side seam stripping are required. Wire handles treated to resist corrosion are required for 4 L (1 gal) cans. Can closure shall be in accordance with the appendix to PPP-C-96.

5.2.2.2 Pails. Four and 19 L (1 and 5 gal) pails shall be in accordance with type II, class 3 of PPP-P-704. An interior coating is required for cans containing water-based coatings. All containers shall have an exterior coating. Wire handles treated to resist corrosion are required.

5.2.2.3 Double-compartmented pail. The 23 or 24.5 L (6 or 6-1/2 gal) double-compartmented pail shall be in accordance with type II, class 5 or 11 of PPP-P-704. An interior coating is required for pails containing water-based coatings. All pails shall have an exterior coating. Wire handles or bails treated to resist corrosion are required. The second compartment may be formed using a metal or plastic insert having a tray or saddle shape which is designed to rest over the edge of the pail. The insert shall fit tightly, and shall be of sufficient size to accommodate the unit pack curing agent, component B. The pail, lid, and insert shall fit tightly without leaking. Gaskets may be used if necessary to ensure a leakproof fit.

5.2.3 Level C.

5.2.3.1 Cans. Cans shall be as specified under level A except that exterior plan A coating shall apply.

5.2.3.2 Pails. Pails shall be as specified under level A.

5.2.4 Commercial. The coating in quantity specified (see 5.2.1) shall be unit packed in containers (see 5.1.1) in accordance with ASTM D 3951 (see 5.1.1).

5.3 Packing. Packing shall be levels A, B, C, or commercial as specified (see 6.2).

5.3.1 Level A.

5.3.1.1 Cans. Cans shall be arranged and packed in wood, plywood or wirebound containers, at the supplier's option, in accordance with the level A requirements of the appendix to PPP-C-96.

5.3.1.2 Pails. Pails shall be packed in accordance with the appendix to PPP-P-704.

5.3.2 Level B.

5.3.2.1 Cans. Cans shall be packed in accordance with the level A requirements of the appendix to PPP-C-96, except that the wood, plywood and wirebound boxes shall be of the domestic type or class. Fiberboard shall be of the fire-retardant weather-resistant class (see 5.1.2) and boxes shall be provided with fiberboard top and bottom pads. Fiberboard box closure shall be in accordance with Method V and reinforced with tape or non-metallic banding.

5.3.2.2 Pails. Pails shall be packed in accordance with the appendix to PPP-P-704.

5.3.3 Level C.

5.3.3.1 Cans. Cans shall be packed in accordance with level B requirements of the appendix to PPP-C-96. Fiberboard shall be of the class - domestic/fire-retardant [see 5.1.2 (b)]. Fiberboard box closure shall be in accordance with Method I using pressure sensitive adhesive tape.

5.3.3.2 Pails. Pails shall be packed in accordance with the appendix to PPP-P-704.

5.3.4 Commercial. Commercial packing shall be in accordance with the requirements of ASTM D 3951.

5.4 Marking.

5.4.1 Levels A, B, C and Commercial. In addition to any special marking required (see 3.5, 6.2 and herein), shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129, the applicable container specification and appendix thereto, and shall include bar coding. Commercial marking shall be in accordance with the requirements of ASTM D 3951, including bar coding.

5.4.1.1 Colors of labels. The major bold lettering on all labels shall be red on a white background for composition G, and blue on a white background for composition L.

5.4.1.2 Special marking. Each container of single-component coatings and each component container of two-component coatings shall be marked with the following additional information:

(a) Number and date of this specification.
(b) Type and composition of non-skid topcoat.
(c) Manufacturer's name and the address of the manufacturing location.
(d) Manufacturer's QPL designation, lot number, and date of manufacture.
(e) Contract number.
(f) Color name and number from FED-STD-595.

5.4.1.3 Additional markings. In addition to other requirements, containers shall bear the following markings:

(a) Each component container of two-component materials shall bear the following marking: "CAUTION: This is one component of a two component system which WILL NOT HARDEN unless both components are mixed together."
(b) Containers of composition G coatings shall bear the following marking on the container and on the lid: "DO NOT USE IN CARRIER LANDING AREAS."
(c) Containers shall bear the following markings:

(1) "INSTRUCTIONS FOR USE: Refer to the contractor's written instructions for mixing and application before beginning work."
(2) "CAUTION: Avoid skin contact during application. Ingredients may cause irritation or skin sensitization. In case of contact, wash skin thoroughly with soap and water."
(3) "This coating has a 1-year nonextendable shelf life and shall not be used after (insert the month and year which are one year later than the date of manufacture)."

(d) Containers shall also be marked as follows: "Contains a maximum of INSERT PROPER NUMBER HERE pounds per gallon (INSERT PROPER NUMBER HERE grams per liter) of volatile organic content (VOC) per 40 CFR Ch. 1, Part 60, Appendix A, (U.S. EPA) method 24."
(e) Containers shall also be marked as follows: "Product shall be used as a system. The product system consist of INSERT PROPER MFG PRIMER, INTERMEDIATE COAT (IF REQUIRED), NON-SKID TOP COAT, AND COLOR TOPPING HERE."
(f) Type III coatings shall be marked as follows: "To use this product an industrial hygienist must be present at all times during the product application and Naval Environmental Health Center Guidance must be strictly followed."

5.5 Material safety data sheet (MSDS). For shipping containers and palletized unit loads, a copy of the FED-STD-313 MSDS shall be attached to each unit of issue and to the shipping document for each destination.

5.6 Repair kits. Repair kits shall consist of two size units, as follows:

5.6.1 Ten gallon kit shall be packed (see 5.2) as a single unit consisting of: (a) sufficient non-skid coating components in double compartmented pails (see 5.1.4) to make 10 gal (mixed) of non-skid coating and (b) sufficient quantity of 1 gal cans and 1 quart (qt) cans of primer and any required intermediate coatings to cover an equivalent surface area covered by 10 gal of non-skid coating.

5.6.2 Five gallon kit shall be packed (see 5.2) as a single unit consisting of (a) sufficient non-skid coating components in 1 gal piggy back cans (see 5.1.2) to make 5 gal (mixed) of non-skid coating and (b) sufficient quantity of 1 gal piggyback cans and 1 quart (qt) cans of primer and any required intermediate coatings for each to cover an equivalent surface area covered by 5 gal of non-skid coating.

5.7 Toxicity. A copy of Navy Environmental Health Center findings shall be attached to the shipping document for each destination.

5.8 Appearance of the dried topcoat. A sample of the non-skid topcoat shall be packaged with each shipment of material for each destination.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The coatings covered by this specification are intended for use on general (walking) deck areas (types I, II, III, and IV composition G), the flight and hangar decks of aircraft carriers (types I and II, compositions G and L) and on the landing decks of air-capable amphibious aviation and aviation ships (types I, II and type III, composition G). Type I provides longer durability than type II, however the factor of increased weight should be considered when using this system. Type III non-skid systems are intended for use only on wood decks or where flexibility or thick smoothing capability is needed to correct drainage. Type III is not intended to be used on aircraft carriers if the underlayment is used due to compressibility of the materials under heavy aircraft. Type IV can be used on walking surfaces, but is not intended for aircraft landing decks. Although laboratory testing is done between 10°C (50°F) and 32°C (90°F), each individual coating of these coating systems is applied in the fleet between 4°C (40°F) and 49°C (120°F). The test outline in section 4 are only for qualification purposes except the service test.

6.2 Acquisition requirements. Acquisition documents must specify the following:

(a) Title, number, and date of this specification.
(b) Type and composition required (see 1.2).
(c) Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
(d) Color required (see 3.7).
(e) When POP requirements are not required (see 5.1.1).
(f) When fire-retardant lumber and plywood are not required [see 5.1.2 (a)].

(g) Class of fire-retardant fiberboard required [see 5.1.2 (b)].
(h) Level of preservation and level of packing required (see 5.2 and 5.3).
(i) Size of container required (see 5.2.1).
(j) Required marking (see 5.4.1).
(k) Data sheets required (see 6.8).

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DID's) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID's are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DoD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

Reference Paragraph	DID Number	DID Title	Suggested Tailoring
4.2.1	DI-MISC-80678	Certification/data report	----

The above DID's were those cleared as of the date of this specification. The current issue of DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

6.4 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL No. 24667 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Naval Sea Systems Command, SEA 5122, Department of the Navy, 2531 National Center Bldg 3, Washington, DC 20362-5160 and information pertaining to qualification of products may be obtained from that activity. Application for qualification tests must be made in accordance with "Provisions Governing Qualification SD-6" (see 6.4.1).

6.4.1 Copies of "Provisions Governing Qualification SD-6" may be obtained upon application to the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

6.5 Shelf life. For the cataloging, logistics, and storage functions of Federal acquisition and supply agencies, materials acquired under this specification shall be assigned a 1-year non-extendable shelf life (shelf life code H) beginning in the date of manufacture.

6.6 Verification tests. Verification tests may be performed and will consist of any tests determined by NAVSEA to be necessary to ensure that the material offered for delivery is the same as the material originally submitted for qualification under this specification. The Government reserves the right to perform inspections and tests not contained in this specification in order to determine that the requirements in section 3 are satisfied, and that the raw materials used in the manufacture of the material offered for delivery are the same as the raw material used in the manufacture of the qualification sample.

6.7 In addition to the requirements specified in 4.2.1, the certification data/report should include the following information:

(a) Certification that the submitted coating system does not contain toxic materials, or esters or ethers derived from ethylene glycol in excess of 0.06% by weight of the dry paint as specified in 3.24.2, 3.24.3, 3.24.4, and 3.24.5.
(b) Certification that the submitted coating system has a 1 year storage stability at the time of delivery to the contracting officer as specified in 3.21.
(c) Material safety data sheet as specified in 3.24.1.
(d) Test report showing that the submitted material conforms to all requirements of this specification as specified in 4.4.3.
(e) Directions for mixing and applying the system-as specified in 3.25.
(f) Certification that the submitted coating system meets the volatile organic content (VOC) requirement of 3.24.6.
(g) A copy of Navy Environmental Health Center findings in 3.24.2.

6.8 FED-STD-313 Material safety data (MSDS), ASTM F 718 data sheets and Navy Environmental Health Center Findings. Contracting officers will identify those activities requiring copies of completed MSDS and ASTM F 718 data sheets (see 3.24.1, 3.25 and 3.24.2). In order to obtain the MSDS, FAR Clause 52.223 must be in the contract. The pertinent Government mailing addresses for submission of data are in FED-STD-313.

6.9 Inspection System Requirements. The nature of this commodity requires the contractor or non-skid supplier to have an established inspection system in his facility prior to and during production of commodities procured to this specification. The contracting officer shall state in the body of the contract or purchase order a requirement that the contractor shall have established and continue to maintain an inspection system in accordance with MIL-I-45208 prior to contract award.

6.10 Supersession data. This specification supersedes MIL-D-23003A(SH) 25 February 1980 and MIL-D-24483A(SHIPS) dated 19 August 1974, as follows:

MIL-C-24667(NAVY)	MIL-D-23003A(SH)	MIL-D-24883A
Type I, composition G	-----	-----
Type I, composition L	-----	-----
Type II, composition G	Type III	-----
Type II, composition L	Type IV	-----
Type III	------	-----
Type IV	-----	Type I
------	Type I	-----
------	Type II	-----
------	-----	Type II

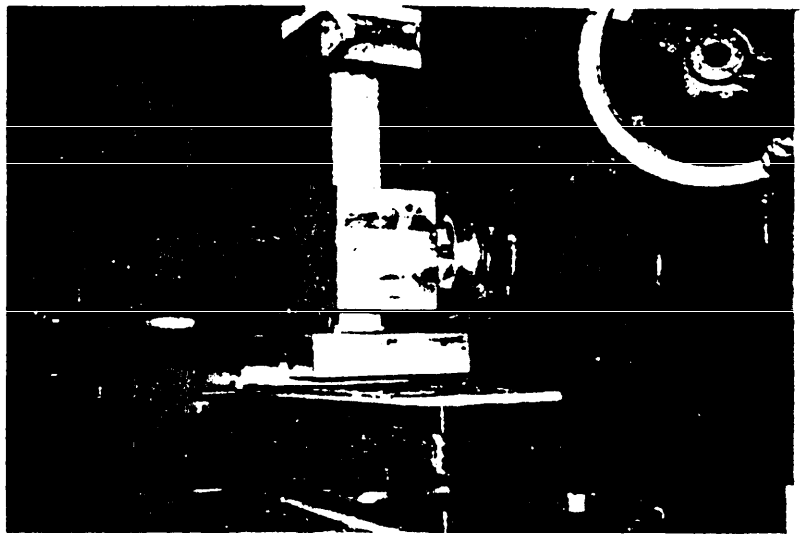
6.11 Subject term (key word) listing.

Coating
Color Topping
Non-skid
Nonslip
Paint
Topcoat

6.12 Changes to previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

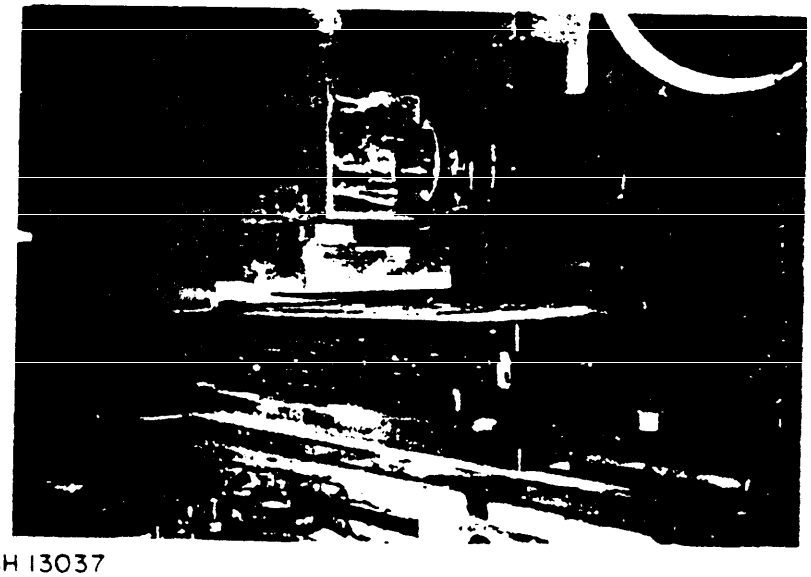
Reviewing activity:
Navy - AS

Preparing activity:
Navy - SH
(Project 8010-N196)



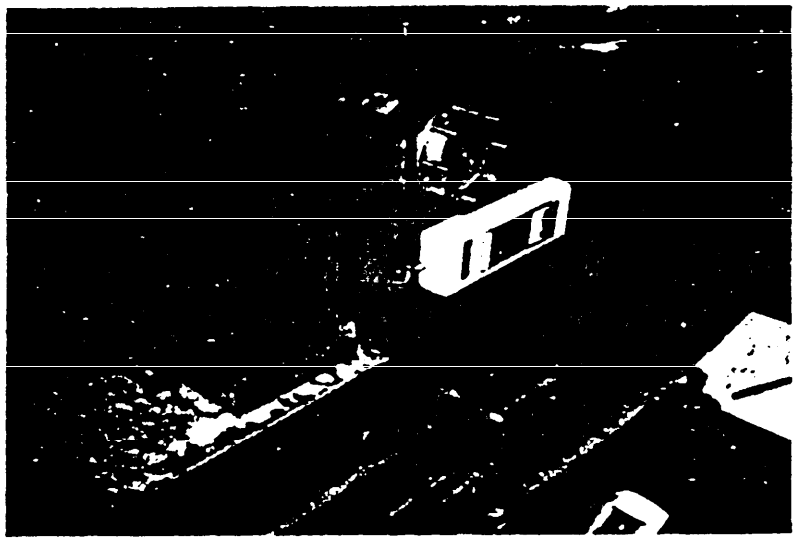
SH 13036

FIGURE 1. View of the NRL wire abrasion tester.



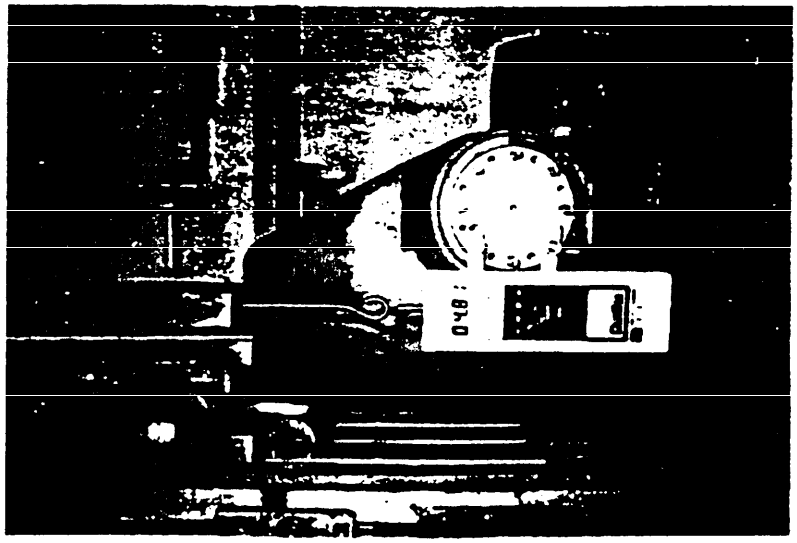
SH 13037

FIGURE 2. Closeup view of the NRL wire abrasion tester.



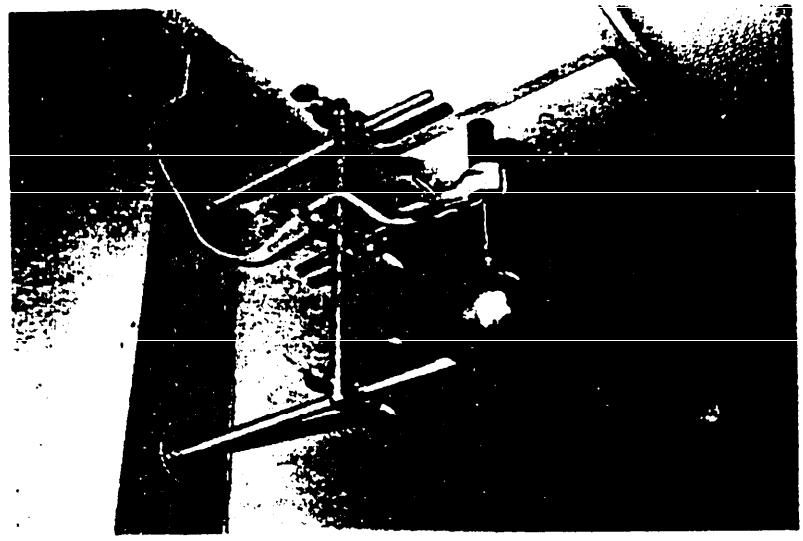
SH 13038

FIGURE 3. View of the coefficient of friction test, showing the NAVSSES slipmeter resting on a panel of nonskid coating.



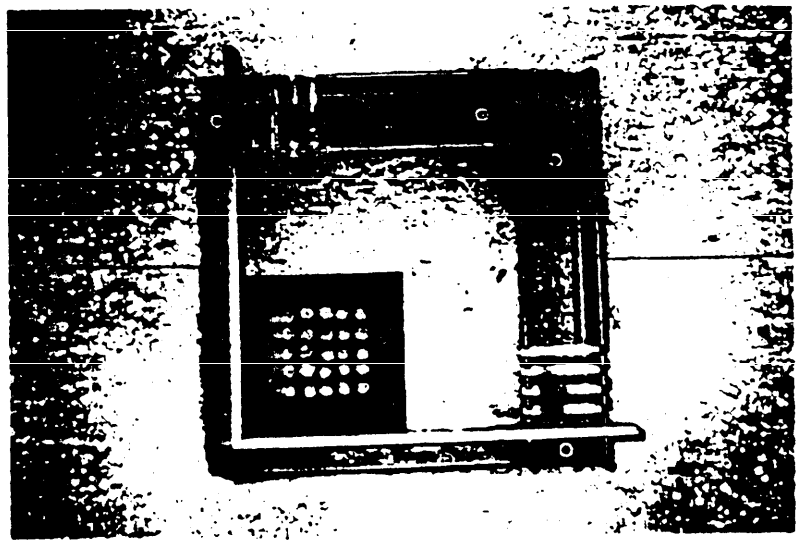
SH 13039

FIGURE 4. View of the coefficient of friction test, showing the direct reading electronic force gauge.



SH 13040

FIGURE 5. - Electromagnet with a centering tip with the 2-pound steel ball used for the impact resistance test.



SH 13041

FIGURE 6. The solid steel base, 2-inches thick, used for the impact resistance test, and the guides used to position the panel for successive impacts.

ose (see 4.8.1. Questions pertinent of personnel when used for its intended purp